SPECTRUM®

SEHI100TX-22
Management Module Guide

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The Complete Networking Solution™

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Preface

Use this guide as a reference for the SPECTRUM SEHI100TX-22 management software. Before using this guide, you should be familiar with SPECTRUM's functions and navigational techniques as described in the ***Administrator's Reference*** and the ***Operator's Reference***.

For the purposes of this guide, SEHI100TX-22 is referred to as "device."

What Is in This Guide

The following outlines the organization of the ***SEHI100TX-22 Management Module Guide***:

Chapter	Description
Chapter 1 *Introduction*	Describes the device, the management module software, and model types. This chapter also provides information on accessing device-specific views.
Chapter 2 *Device Views*	Describes the Device views representing the device.
Chapter 3 *Configuration Views*	Describes the Configuration views for the device and the network management information provided by the views.
Chapter 4 *Event and Alarm Messages*	Lists and explains the event and alarm messages generated in the Event Log or Alarm Manager for the device.
Chapter 5 *Application Views*	Describes the Application views for the device and application-specific information for this device.

Conventions

This guide uses the following conventions:

- Menu selections and buttons referenced in text appear in **bold**; for example, **Configuration** or **Detail**.
- Button names appear in shadowed boxes when introducing paragraphs describing their use; for example:

Help

- Menu navigation appears in order of selection; for example, **Icon Subviews -> Utilities -> Application**.
- Referenced chapter titles and section headings appear in *italics*.
- Referenced documents appear in ***bold italics***.
- SEHI100TX-22 is referred to as “device.”
- References in blue are hypertext links for online documents.

Related SPECTRUM Documentation

When using this guide, you should have a clear understanding of SPECTRUM functionality and navigation techniques as described in the following recommended documentation:

Operator’s Reference

Administrator’s Reference

Report Generator User’s Guide

Application View Reference

Getting Started with SPECTRUM for Operators

Getting Started with SPECTRUM for Administrators

How to Manage Your Network with SPECTRUM

Other Related Documentation

Refer to the following documentation for more information on managing TCP/IP-based networks:

Martin, James, Kathleen Kavanagh Chapman, Joe Leben. ***Local Area Networks: Architectures and Implementations***, 2d ed. Englewood Cliffs, NJ: Prentice Hall, 1994.

Rose, Marshall T. ***The Simple Book: An Introduction to Management of TCP/IP-based Internets***. Englewood Cliffs, NJ: Prentice Hall, 1991.

Stallings, William. ***Data and Computer Communications***, 4th ed. New York: Macmillan Publishing Company, 1994.

Tanenbaum, Andrew S. ***Computer Networks***, 3d ed. Englewood Cliffs, NJ: Prentice Hall, 1996.

Chapter 1

Introduction

What Is in This Chapter

This chapter introduces the SPECTRUM management module for the SEHI100TX-22. It describes the following:

- SEHI100TX-22 Device
- SPECTRUM Support
  - Accessing SPECTRUM Views from the Device Icon
  - Accessing Device-Specific Subviews
- SPECTRUM Views Roadmap
- SPMA Support

SEHI100TX-22 Device

The SEHI100TX-22 is an Intelligent Stackable Ethernet Hub designed to manage up to four of the non-intelligent SEH100TX-22 stackables. It provides 22 100Base-TX network ports via RJ45 connectors and one optional user-configurable EPIM port. It can manage up to 120 Ethernet connections in a single stack. It is fully IEEE 802.3 compliant.

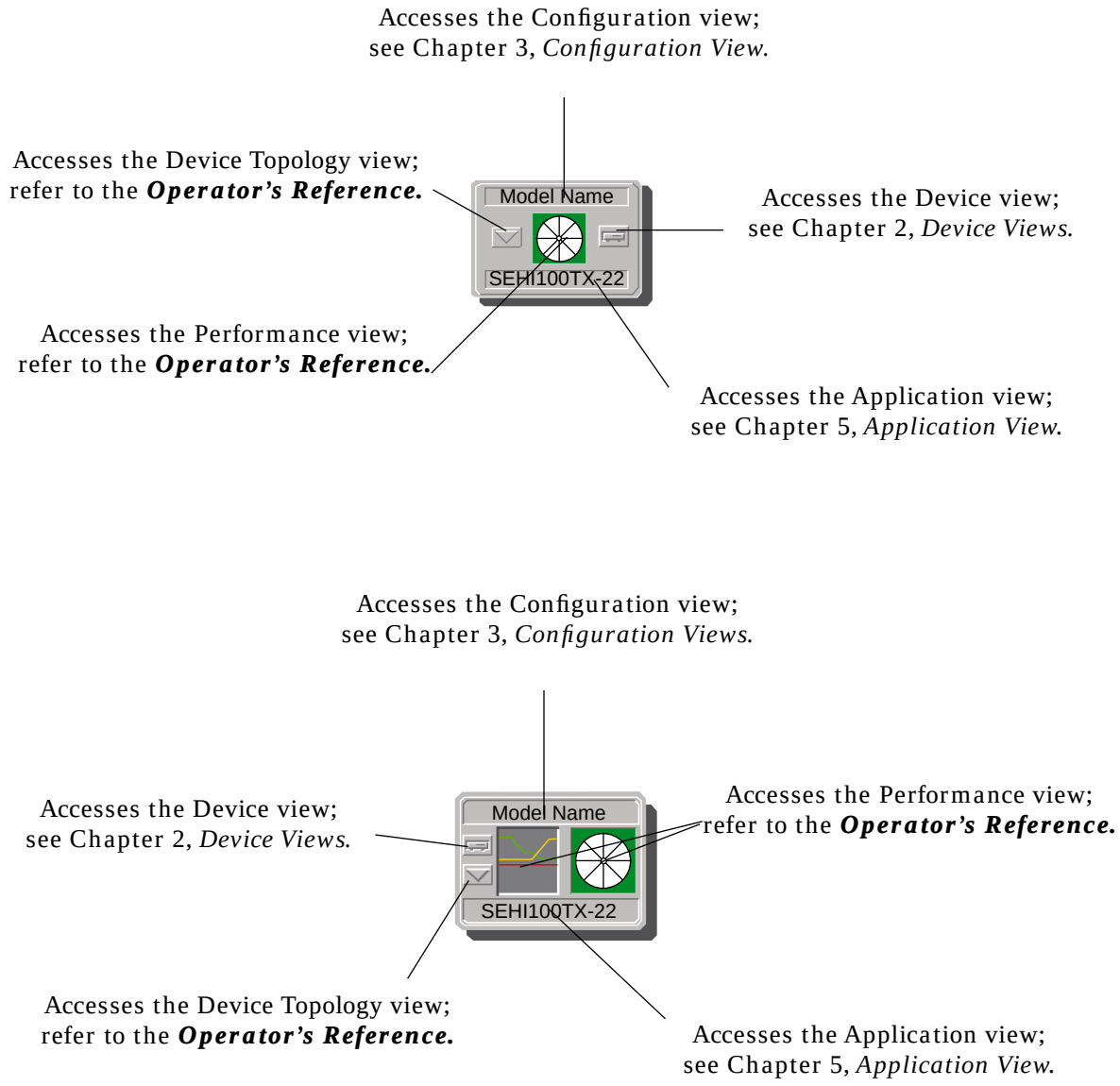
SPECTRUM Support

The SEHI100TX-22 serves as the management contact point for the hub stack. It manages all the non-intelligent SEH100TX-22's in the stack, providing full packet and error statistics for the stack, individual device, or individual port.

Accessing SPECTRUM Views from the Device Icon

The Device icon provides access to SPECTRUM views that display device-specific information. Access these views using double-click zones (Figure 1-1) or Icon Subviews menus (Figure 1-2).

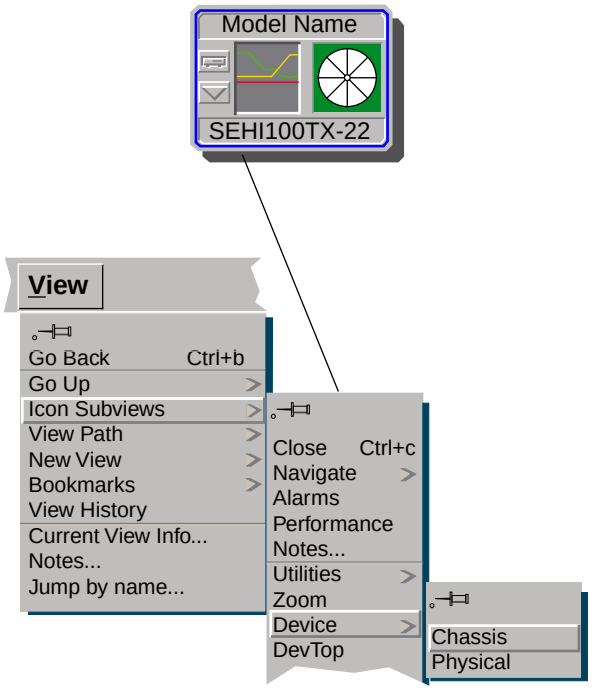
Figure 1-1. Using Double-Click Zones to Access SPECTRUM Views


Accesses the Configuration view;
see Chapter 3, *Configuration View.*
Accesses the Device Topology view;
refer to the ***Operator's Reference.***
Model Name
SEHI100TX-22
Accesses the Device view;
see Chapter 2, *Device Views.*
Accesses the Performance view;
refer to the ***Operator's Reference.***
Accesses the Application view;
see Chapter 5, *Application View.*
Accesses the Configuration view;
see Chapter 3, *Configuration Views.*
Accesses the Device view;
see Chapter 2, *Device Views.*
Model Name
SEHI100TX-22
Accesses the Performance view;
refer to the ***Operator's Reference.***
Accesses the Device Topology view;
refer to the ***Operator's Reference.***
Accesses the Application view;
see Chapter 5, *Application View.*

To access the Icon Subviews menu as shown in Figure 1-2, do the following:

1. Highlight the icon.
2. From the View menu, select **Icon Subviews** or click the applicable mouse button (middle or right). Refer to the ***Operator's Reference*** for information on configuring your mouse.

Figure 1-2. Using the Icon Subviews Menu to Access SPECTRUM Views



Accessing Device-Specific Subviews

Icon Subviews menus provide access to views that display module-specific information. Figure 1-3 shows an example of an Icon Subviews menu for a port label on the module icon located in the Chassis Device view. The module-specific Icon Subviews menu selections are described in Chapter 2, *Device Views*. The menu selections that are common to all devices are described in the ***Administrator's Reference*** and the ***Operator's Reference***.

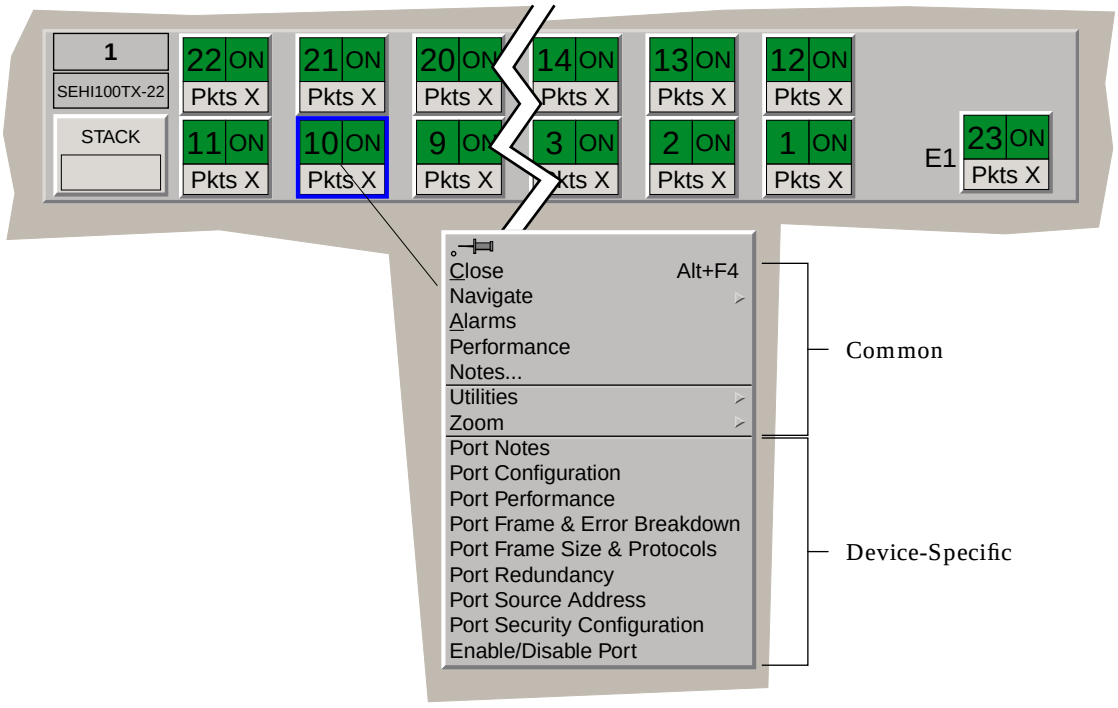
To access the Icon Subviews menu using the View menu, do the following:

1. Highlight the icon.
2. From the View menu, select **Icon Subviews**.

To access the Icon Subviews menu using the mouse button, do the following:

1. Position the mouse pointer on the icon.
2. Click the applicable mouse button (middle or right). Refer to the ***Operator's Reference*** for information on configuring your mouse.

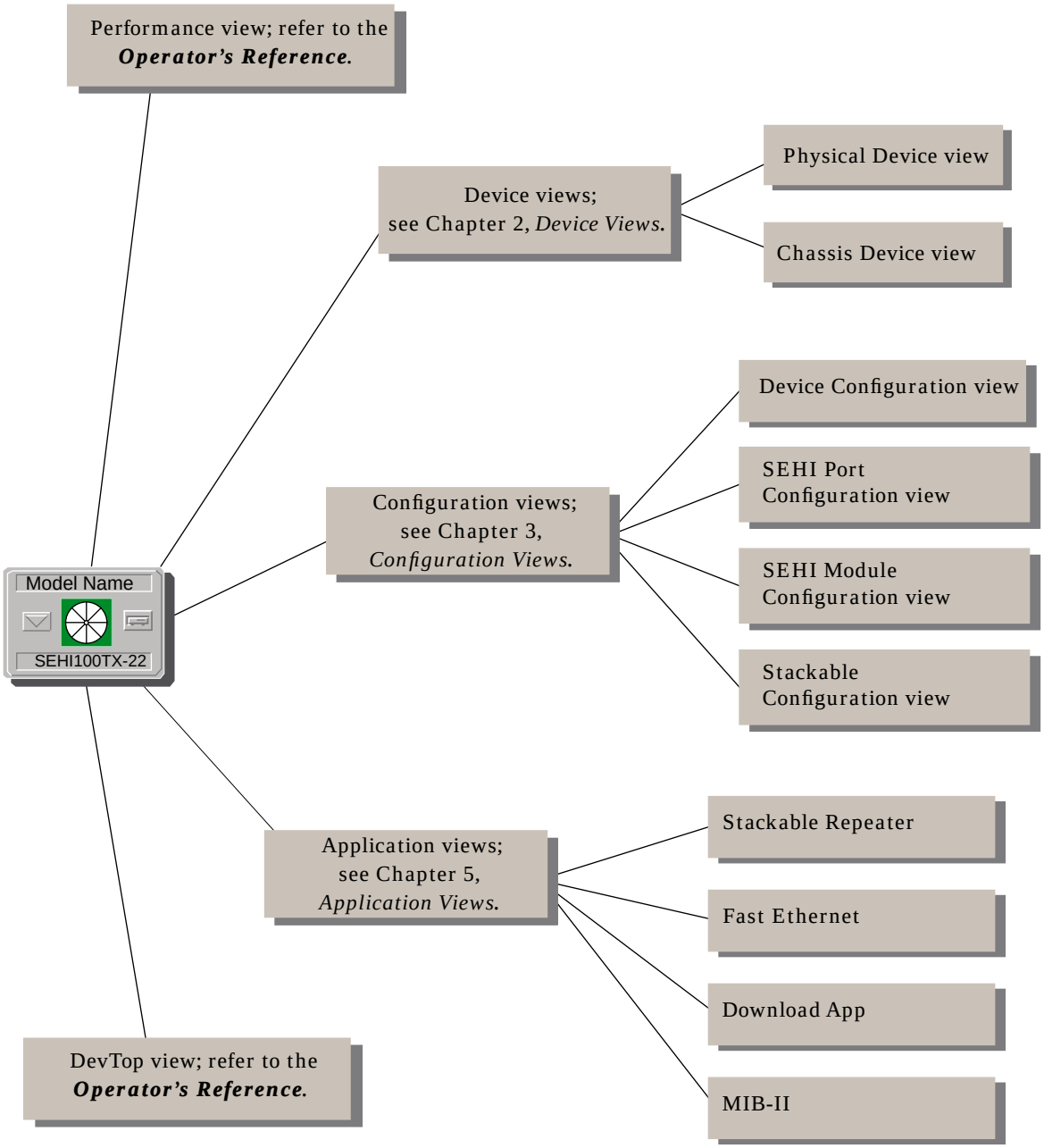
Figure 1-3. Accessing Device-Specific Subviews



SPECTRUM Views Roadmap

Figure 1-4 shows a "roadmap" of the SPECTRUM views for this device. These views are accessible from double-click zones (Figure 1-1) and Icon Subviews menus (Figure 1-2 and Figure 1-3).

Figure 1-4. SPECTRUM Views Roadmap



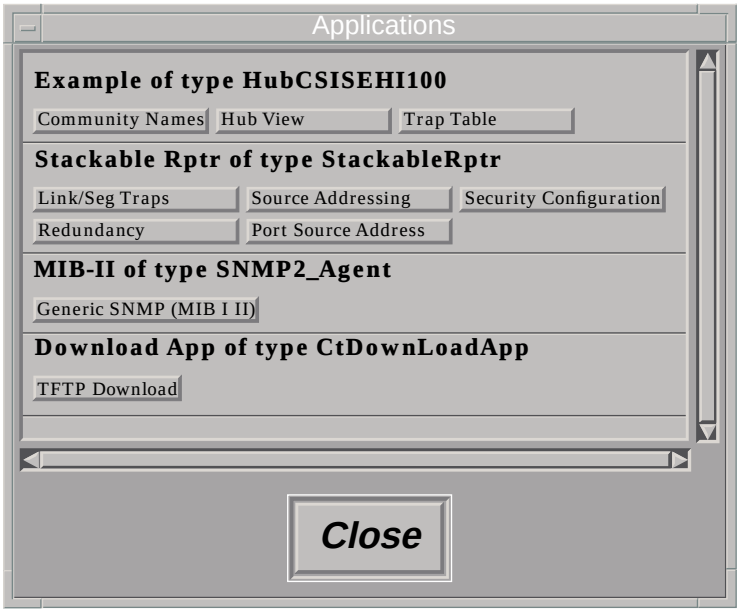
SPMA Support

SPECTRUM also supports the SPECTRUM Portable Management Application (SPMA) functionality for the SEHI100TX-22. To open the SPMA Applications view, do the following:

1. Highlight the Device icon.
2. From the View menu, select **Icon Subviews -> Utilities -> Applications...**.

Figure 1-5 shows an example of an SPMA Applications view.

Figure 1-5. SPMA Applications View



The buttons within the SPMA Applications view provide access to SPMA-specific views and dialog boxes. The Applications view for a particular device may include different buttons depending upon the applications available and the configuration of your device. Refer to the ***SPECTRUM Portable Management Application for the SEHI100TX-22 User's Guide*** or the ***SPECTRUM Portable Management Application Tools Guide.***

Chapter 2

Device Views

What Is in This Chapter

This chapter describes the following Device views available for the SEHI100TX-22:

- Chassis Device view
- Physical Device view

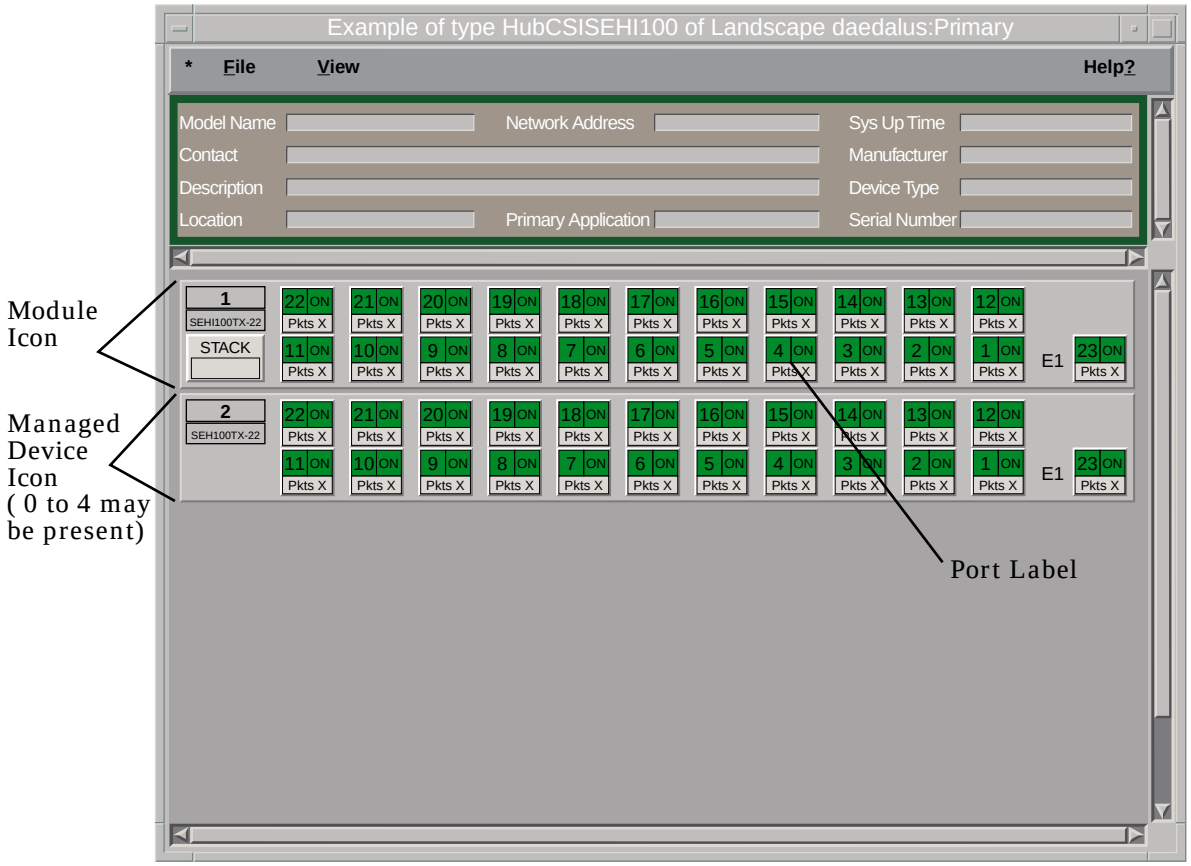
For information on *Accessing SPECTRUM Views from the Device Icon*, see page 1-2, and for information on *Accessing Device-Specific Subviews*, see page 1-4.

Chassis Device View

This view, accessible from the Device Icon, is a logical representation of the SEHI100TX-22 and the non-intelligent stackables it is managing. The Chassis Device view provides menu access and double-click zone access to the views that monitor the devices and interfaces or ports.

Figure 2-1 shows an example of the Chassis Device view.

Figure 2-1. Chassis Device View



Module Icon

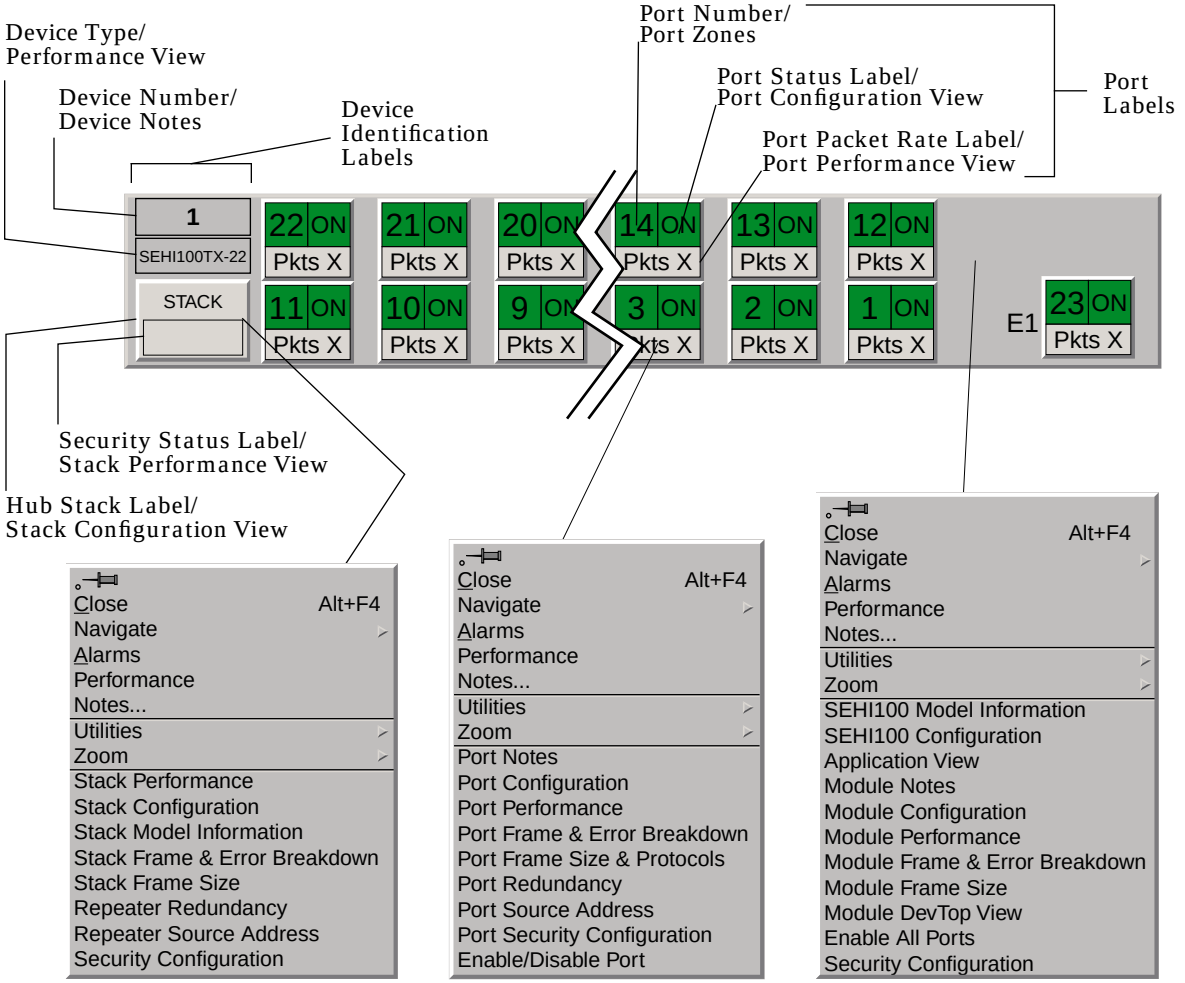
This icon is a logical representation of the physical module, its location in the stack, and its front panel interfaces or ports. This section describes the information available from the icon. Figure 2-2 shows an example of a Module icon.

NOTES

The callouts displayed in the illustration below identify the labels and, when applicable, the views to which they provide double-click access. Example: Device Type/Performance View displays the slot number and provides double-click access to the Performance View.

The menus displayed in the illustration are the Icon Subviews menus for those labels or the Module icon.

Figure 2-2. Module Icon



Device Identification Labels

These labels (Figure 2-2 on page 2-3) provide the following information:

Device Number
Identifies the device's location in the Stack. Double-click this area to open the Notes Facility.

Device Type
Identifies the type of device. Double-click this label to open the Performance view described in the ***Operator's Reference***.

Hub Stack Label
Provides access to Hub Stack specific menus. Double-click on this label to open the Stack Configuration view.

Security Status Label
Identifies the security status of the stack. Possible values are: blank, LOCKED, UNLOCKED, and MISMATCHED. Double-click on this label to open the Stack Performance view.

Device Icon Subviews Menu

Table 2-1 lists each of the device-specific Icon Subviews menu selections available for this device. See *Accessing Device-Specific Subviews*, on page 1-4.

Table 2-1. Device Icon Subviews Menu

Menu Selection	Description
SEHI100 Model Information	Opens the SEHI Model Information view described in the ***Operator's Reference***.
SEHI100 Configuration	Opens the *SEHI Device Configuration View* described on page 3-2.
Application View	Opens the Application view described in the ***Application View Reference***.
Module Notes	Opens the SPECTRUM Module Notes Facility.
Module Configuration	Opens the *Module Configuration View* described on 3-3.
Module Performance	Opens the Module Performance view described in the ***Operator's Reference*** and the ***Application View Reference***.
Module Frame & Error Breakdown	Opens the *Frame and Error Breakdown* view described on page 2-7.
Module Frame Size	Opens the *Frame Size View* described on page 2-8.
Module DevTop View	Opens the Device Topology view described in the ***Operator's Reference***.

Table 2-1. Device Icon Subviews Menu (Continued)

Enable All Ports	Displays the Enable All Ports view, which allows you to enable all the ports on the module.
Security Configuration	Opens the Channel A Module Security view and the Repeater Security view as described in the ***SPECTRUM Portable Management Application for the SEHI100TX-22 User's Guide***.

Hub Stack Label

This label provides access to the Icon Subviews menu for the Hub Stack (refer to Figure 2-2 on page 2-3). Double-click the Hub Stack label to open the *SEHI Stackable Configuration View* described on page 3-5.

Table 2-2 lists the Hub Stack Icon Subviews menu selections. See page 1-4 for information on *Accessing Device-Specific Subviews*.

Table 2-2. Hub Stack Icon Subviews Menu

Menu Selection	Description
Stack Performance	Opens the Stack Performance view described in the ***Operator's Reference*** and the ***Application View Reference***.
Stack Configuration	Opens the *SEHI Stackable Configuration View* described on page 3-5.
Stack Model Information	Opens the SEHI Model Information view described in the ***Operator's Reference***.
Stack Frame & Error Breakdown	Opens the *Frame and Error Breakdown* view described on page 2-7.
Stack Frame Size	Opens the *Frame Size View* described on page 2-8.
Repeater Redundancy	For more information on the Repeater Redundancy view refer to the ***SPECTRUM Portable Management Application for the SEHI100TX-22 User's Guide***.
Repeater Source Address	For more information on the Repeater Source Address view refer to the ***SPECTRUM Portable Management Application for the SEHI100TX-22 User's Guide***.
Repeater Security Configuration	For more information on the Repeater Security Configuration view refer to the ***SPECTRUM Portable Management Application for the SEHI100TX-22 User's Guide***.

Port Labels

These labels represent the interfaces located on the front panel of the device. They provide access to the Icon Subviews menu for the port and display three information labels: a Port Number label, a Port Status label, and a Port Packet Rate label. The menu selection for this Interface label is **Configuration**. It opens the Configuration dialog box, which allows you to enable or disable the selected port. See page 1-4 for information on *Accessing Device-Specific Subviews*.

Port Number
Identifies the type and number of the interface or port represented (refer to Figure 2-2 on page 2-3). Labels 1 through 22 refer to the port. Label 23 refers to the EPIM.

Port Status Label
Indicates the port activity status. Table 2-3 and Table 2-4 list the possible states relative to the application selected. Double-click this label to open the Port Configuration view described in the ***Operator's Reference***.

Table 2-3. Interface Status for the Bridging Application

Color	Status	Description
Green	FWD	Bridge port is forwarding.
Blue	DIS	Port is disabled.
Magenta	LST	Bridge is in the listening mode.
Magenta	LRN	Bridge is in the learning mode
Orange	BLK	Bridge port is in the blocking mode.
Red	BRK	Bridge port is broken.
Blue	???	The status is unknown.

Table 2-4. Interface Status for the Physical or MIB II Application

Color	Status	Description
Green	ON	Port is operational.
Blue	OFF	Port is off.
Yellow	TST	Port is in the test mode.

Table 2-5 on page 2-7 lists the Port Label Icon Subviews menu selections. See page 1-4 for information on *Accessing Device-Specific Subviews*.

Table 2-5. Port Icon Subviews Menu

Menu Selection	Description
Port Notes	Opens the SPECTRUM Port Notes Facility
Port Configuration	Opens the *Port Configuration View* described on page 3-4.
Port Performance	Opens the Stack Performance view described in the ***Operator's Reference*** and the ***Application View Reference***.
Port Frame & Error Breakdown	Opens the *Frame and Error Breakdown* view described on page 2-7.
Port Frame Size & Protocols	Opens the *Frame Size View* described on page 2-8.
Port Redundancy	Opens the Channel A Redundancy Window and the Repeater Redundancy Window described in ***SPECTRUM Portable Management Application for the SEHI100TX-22 User's Guide***.
Port Source Address	Opens the Source Address List Window described in ***SPECTRUM Portable Management Application for the SEHI100TX-22 User's Guide***.
Port Security Configuration	Opens the Channel A Port Security Window and the Repeater Security Window described in ***SPECTRUM Portable Management Application for the SEHI100TX-22 User's Guide***.
Enable/Disable Port	Displays the Enable/Disable Port view, which allows you to enable or disable specific ports.

Frame and Error Breakdown

This view is used in a number of situations. From the Module Icon it displays the SEHI100TX-22 module information. From the Hub Stack label it displays information for the entire stack. From the Port labels it displays information relevant only to that port.

This view provides two color-coded pie charts presenting a breakdown of frame and error statistics. Each statistic is presented as a total amount since the SEHI was initialized and as a percentage of overall traffic. The statistics provided by the Frame Breakdown Pie Chart and Error Breakdown Pie Chart are described below.

Frame Breakdown Pie Chart

Good Frames
The total number of good frames detected on this device.

Collisions
The total number of collisions detected by this device.

Errors
The total number of errors detected by this device.

Error Breakdown Pie Chart

Giants
The total amount of giant packets received by this device. A giant packet exceeds 1518 bytes, not including preamble.

Runts
The total amount of runt packets received by this device. A runt packet is one byte less than the standard Ethernet frame of 64 bytes, not including preamble.

Alignment
The total number of misaligned packets detected on this device.

CRC
The total number of packets received by this device with bad Cyclical Redundancy Checks (CRCs).

OOW Collisions
The total amount of collisions out of the standard window (51.2ms) due to a network problem.

Frame Size View

This view is used in a number of situations. From the Module Icon it displays the SEHI100TX-22 module information. From the Hub Stack label it displays information for the entire stack. From the Port labels it displays information relevant only to that port.

This view provides a color-coded pie chart presenting a breakdown of frame size statistics. Each statistic is presented as a total amount since the SEHI was initialized and as a percentage of overall traffic.

Frame Breakdown Pie Chart

Runts
The total number of frames less than 64 bytes in size seen on this device.

64-127 Bytes
The total number of frames between 64 and 127 bytes in size seen on this device.

128-255 Bytes
The total number of frames between 128 and 255 bytes in size seen on this device.

256-511 Bytes
The total number of frames between 256 and 511 bytes in size seen on this device.

512-1023 Bytes
The total number of frames between 512 and 1023 bytes in size seen on this device.

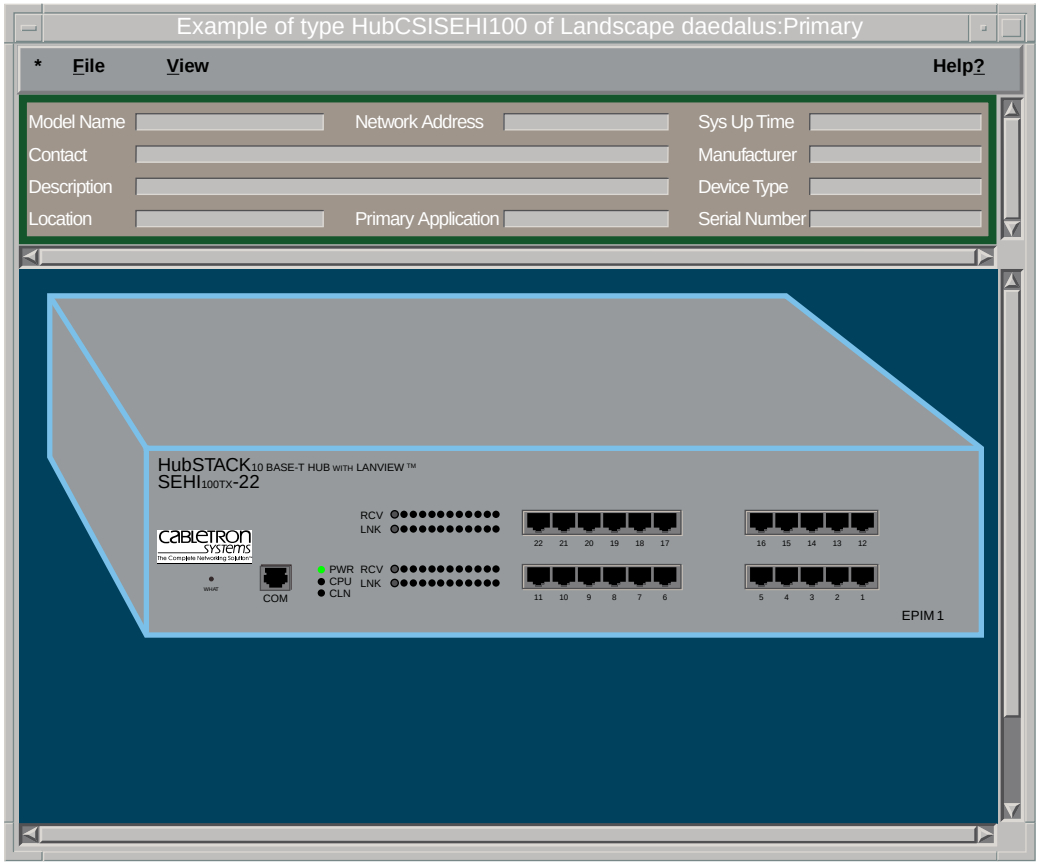
1024-1518 Bytes
The total number of frames between 1024 and 1518 bytes in size seen on this device.

Giants
The total number of frames greater than 1518 bytes in size seen on this device.

Physical Device View

This view, accessible from the Device Icon, shows a static image of the SEHI100TX-22 (Figure 2-3). From this view device-specific Icon Subviews menu selections are available. These are described in the *Chassis Device View* shown on page 2-2. See Table 2-1 on page 2-4 for information on the *Device Icon Subviews Menu*.

Figure 2-3. Physical Device View



Chapter 3

Configuration Views

What Is in This Chapter

This chapter describes the Configuration views available for the SEHI100TX-22. These views display network configuration and operating information for the device and its interfaces.

The following Configuration views are available for the SEHI100TX-22:

- SEHI Device Configuration
- Module Configuration
- Port Configuration
- Stackable Configuration

For information on *Accessing SPECTRUM Views from the Device Icon*, see page 1-2, and for information on *Accessing Device-Specific Subviews*, see page 1-4.

SEHI Device Configuration View

This view, accessible from the Device Icon, provides the following information on the configuration and operating status of this device.

Device Configuration Information

This section of the Device Configuration view displays the following device-specific information:

Firmware Revision
Displays the firmware revision for this device.

Hardware Revision
Displays the hardware revision for this device.

MAC Address
Displays the Physical (Ethernet) address for this device.

This view also provides the following SPMA buttons, which allow you to configure this device. For details on the views accessible from these buttons, refer to the ***SPECTRUM Portable Management Application Tools Guide***.

Chassis Table Information

This area provides buttons to access information and configuration views.

Component Table

Opens the Community Name window, which provides information on the SEHI100TX-22 components.

Slot Table

Opens the SEHI Slot Table, which provides information on the type and position of the devices in the stack.

Trap Table

Opens the Trap Table, which allows you to set up your workstation to be notified of traps received and sent by the SEHI100TX-22.

Download Application

Download

Opens the TFTP Download view, which enables you to upgrade SEHI100TX-22 firmware from a TFTP Boot or Bootp Server.

Module Configuration View

This view provides information on the configuration of the selected module and allows you to modify port and trap values. To access this view, do the following:

1. Within the Chassis Device view, highlight the Device icon.
2. From the Icon Subviews menu, select **Module Configuration**.

Module Management

This section of the Module Configuration view provides the following information and functions for the module port configuration:

Port Count
Displays the total number of ports on this module.

Ports On
Displays the number of ports on the module with a status of ON or NLK.

Ports Operational
Displays the number of ports on the module that are currently transmitting or receiving packets.

Module Ports
This menu button allows you to select the operational status of the module. Possible selections are: No_Enable or Enable.

Trap Configuration

This section of the Module Configuration view provides the following functions for the module trap configuration:

Link Traps
Allows you to select the operational status of the link traps. Possible selections are: Disable, Enable, and Other.

Segmentation Traps
Allows you to select the operational status of the segmentation traps. Possible selections are: Disable, Enable, and Other.

Port Configuration View

This view provides information on the configuration of the selected port and allows you to modify some values. To access this view, do the following:

1. From the Chassis Device view, highlight the Port Icon label.
2. From the Icon Subviews menu, select **Port Configuration**.

Port Management

This section of the Port Configuration view provides the following information and functions for the port configuration:

Port ID
Displays the number identifying this port on this module.

Administrative Status
Allows you to select the operational status of the port. Possible selections are: Enable or Disable.

Operational Status
Displays whether the port is Operational or Not-Operational.

Segmentation Status
Displays whether the port is Segmented or Not_Segmented.

Link Status
Displays whether the port is Linked or Not_Linked.

Topological State
Displays whether the port is configured to be a Station or a Trunk.

Set Topological State
Allows you to select the topological state of the port. Possible selections are: Not_Forced and Forced_Trunk.

Trap Configuration

This section of the Port Configuration view provides the following functions for the port trap configuration:

Link Traps
Allows you to select the operational status of the link traps. Possible selections are: Disable, Enable, and Other.

Segmentation Traps
Allows you to select the operational status of the segmentation traps. Possible selections are: Disable, Enable, and Other.

SEHI Stackable Configuration View

This view provides information on the configuration of the entire stack and allows you to modify some values. To access this view, do the following:

1. From the Chassis Device view, highlight the Hub Stack label.
2. From the Icon Subviews menu, select **Stack Configuration**.

Repeater Management

This section provides the following information on the stack configuration:

Port Count
Displays the total number of ports in this stack.

Ports On
Displays the number of ports in the stack with a status of ON or NLK.

Ports Operational
Displays the number of ports in the stack that are currently transmitting or receiving packets.

Trap Configuration

This section provides the following functions for the port trap configuration:

Link Traps
Allows you to select the operational status of the link traps. Possible selections are: Disable, Enable, and Other.

Segmentation Traps
Allows you to select the operational status of the segmentation traps. Possible selections are: Disable, Enable, and Other.

Chapter 4

Event and Alarm Messages

What Is in This Chapter

This chapter lists the types of events and alarms generated by the SEHI100TX-22 and provides any probable cause messages corresponding to these alarms.

Device Events and Alarms

Table 4-1 lists the SPECTRUM database directory paths (in bold) and the messages displayed for the Event Log and Alarm Manager when applicable.

Table 4-1. Device Events and Alarms

Message in the Event Log	Alarm Manager Probable Cause Message
CsEvFormat/Event00010306 {d "%w- %d %m-, %Y %T"} A(n) {t} device, named {m}, has been cold started. (event [{e}])	**No Probable cause message.**
CsEvFormat/Event00010307 {d "%w- %d %m-, %Y %T"} A(n) {t} device, named {m} has been warm started. (event [{e}])	**No Probable cause message.**

Table 4-1. Device Events and Alarms (Continued)

Message in the Event Log	Alarm Manager Probable Cause Message
CsEvFormat/Event00010308 {d "%w- %d %m-, %Y %T"} A(n) {t} device, named {m}, has detected a communication Link Down. (event [{e}])	**CsPCause/Prob00010308** Communication link is down.
CsEvFormat/Event00010309 {d "%w- %d %m-, %Y %T"} A(n) {t} device, named {m}, has detected a communication Link Up. (event [{e}])	**No Probable cause message.**
CsEvFormat/Event0001030a {d "%w- %d %m-, %Y %T"} A(n) {t} device, named {m}, has detected an Authentication Failure. (event [{e}])	**CsPCause/Prob0001030a** A user is trying to connect to a device with an invalid community string.
CsEvFormat/Event0001030b {d "%w- %d %m-, %Y %T"} A(n) {t} device, named {m}, has detected an EGP Neighbor Loss. EGP Neighbor IP address is {O 1}. (event [{e}])	**CsPCause/Prob0001030b** Lost contact with EGP neighbor.
CsEvFormat/Event000d0101 {d "%w- %d %m-, %Y %T"} Port {I 3} on module in slot {I 1} of {m} ({t}), has segmented. (event [{e}])	**CsPCause/Prob000d0101** Cabling problem of extremely high rates of traffic on the segment the port is attached to.
CsEvFormat/Event000d0102 {d "%w- %d %m-, %Y %T"} Port {I 3} on module in slot {I 1} of {m} ({t}), has unsegmented. (event [{e}])	**CsPCause/Prob000d0102** 1) A cable or termination fault has been corrected. 2) Unsegmenting also can occur on a port that previously was not in use.
CsEvFormat/Event000d0103 {d "%w- %d %m-, %Y %T"} Network configuration change reported by {m} ({t}). Device linked to port {I 3} on module in slot {I 1}. (event [{e}])	**CsPCause/Prob000d0103** A device supporting link integrity, fiber optic or twisted pair, has made a valid connection (link) to this port.

Table 4-1. Device Events and Alarms (Continued)

Message in the Event Log	Alarm Manager Probable Cause Message
CsEvFormat/Event000d0104 {d "%w- %d %m-, %Y %T"} Network configuration change reported by {m} ({t}). Device previously linked to port {I 3} on module in slot {I 1} has ceased to transmit link integrity pulse. (event [{e}])	**CsPCause/Prob000d0104** 1) A device previously linked with this port has been removed or powered down. 2) The cable segment has a fault.
CsEvFormat/Event000d0105 {d "%w- %d %m-, %Y %T"} New source address {X 5}, is detected on {m} ({t}), port {I 3} of module in slot {I 1}. (event [{e}])	**CsPCause/Prob000d0105** 1) The device is new. 2) The device has been powered up but has not transmitted a packet with the aging time period.
CsEvFormat/Event000d0106 {d "%w- %d %m-, %Y %T"} Source address {X 5}, has timed out on port {I 3} of the module in slot {I 1} of {m} ({t}). (event [{e}])	**CsPCause/Prob000d0106** A device linked or not linked to this port has not transmitted a packet during the aging time period, and has been removed from the source address table of the device.
CsEvFormat/Event000d0107 {d "%w- %d %m-, %Y %T"} Device configuration change reported by {m} ({t}). The module in slot {I 1} has been removed. (event [{e}])	**CsPCause/Prob000d0107** A module within this hub has been removed or has failed.
CsEvFormat/Event000d0108 {d "%w- %d %m-, %Y %T"} Device configuration change reported by {m} ({t}). An (EPIM) has been inserted into slot {I 1} of the MMAC. (event [{e}])	**CsPCause/Prob000d0108** A module has been inserted into this hub.
CsEvFormat/Event000d0109 {d "%w- %d %m-, %Y %T"} Network configuration change reported by {m} ({t}). Port {I 3} in slot {I 1} has failed redundancy polling and has switched to a backup port. (event [{e}])	**CsPCause/Prob000d0109** 1) The device(s) have failed or have been powered down. 2) A cable fault from the active port to the polled device has occurred.

Table 4-1. Device Events and Alarms (Continued)

Message in the Event Log	Alarm Manager Probable Cause Message
CsEvFormat/Event000d010a {d "%w- %d %m-, %Y %T"} Network configuration change reported by {m} ({t}). Port {I 3} in slot {I 1} has now become active as the result of a redundancy poll failure. (event [{e}])	**CsPCause/Prob000d010a** The polled device has been communicated with via a backup port and the port is now active. The other ports in this redundant circuit are now designated as backup and are turned off to prevent data loops on the network.
CsEvFormat/Event000d010b {d "%w- %d %m-, %Y %T"} Redundancy diagnostics of {m} ({t}), indicate that the redundant link for module {I 1}, port {I 3} has failed. (event [{e}])	**CsPCause/Prob000d010b** The cable segment connected to the port has a cable fault.
CsEvFormat/Event000d010f {d "%w- %d %m-, %Y %T"} User defined traffic threshold {I 1} packets within {I 3} seconds, exceeded on module {I 5} of {m} ({t}). (event [{e}])	**CsPCause/Prob000d010f** The device(s) attached to this module may have an application which requires a large amount of network bandwidth.
CsEvFormat/Event000d0110 {d "%w- %d %m-, %Y %T"} Error threshold exceeded. An error threshold, of {I 1}% of total packets in {I 5} seconds, exceeded on module in slot {I 7}. (event [{e}])	**CsPCause/Prob000d0110** 1) A malfunctioning device is present on this module. 2) A cable fault exists.
CsEvFormat/Event000d0111 {d "%w- %d %m-, %Y %T"} Collision threshold exceeded. The number of collisions per total packets within the time base of {I 3} seconds has been exceeded on the module in slot {I 5} of {m} ({t}). (event [{e}])	**CsPCause/Prob000d0111** Collisions are caused by many nodes contending for the network or cabling faults.
CsEvFormat/Event000d0112 {d "%w- %d %m-, %Y %T"} Traffic threshold, {I 1} packets per {I 3} seconds, exceeded on port {I 7} on module in slot {I 5} of {m} ({t}). (event [{e}])	**CsPCause/Prob000d0112** The device(s) attached to this port may have an application which requires a large amount of network bandwidth.

Table 4-1. Device Events and Alarms (Continued)

Message in the Event Log	Alarm Manager Probable Cause Message
CsEvFormat/Event000d0113 {d "%w- %d %m-, %Y %T"} Error threshold exceeded. An error threshold, of {I 1}% of total packets in {I 5} seconds, exceeded on port {I 9} on module in slot {I 7} of {m} ({t}). (event [{e}])	**CsPCause/Prob000d0113** 1) The device(s) attached to this port could have a hardware failure where it transmits invalid packets. 2) The cable segment attached to this port may have a problem.
CsEvFormat/Event000d0114 {d "%w- %d %m-, %Y %T"} Collision threshold exceeded. The number of collisions per total packets within the time base of {I 3} seconds has been exceeded on port {I 7} on module in slot {I 5} of {m} ({t}). (event [{e}])	**CsPCause/Prob000d0114** 1) The device(s) attached to this port may have an adapter card problem which causes them to transmit without regarding network availability. 2) A cable problem may exist.
CsEvFormat/Event000d0115 {d "%w- %d %m-, %Y %T"} Port Topology type changed. Port {I 3} of module in slot {I 1} has changed from {T PrtTopoStatus 5} port on {m} ({t}). (event [{e}])	**CsPCause/Prob000d0115** The number of addresses in the source address table has changed. If three or more addresses are learned on a port for one aging time period, the port is designated as a trunk port. A port connecting two hubs or a coax segment with multiple taps are examples of trunk ports. If a port has one address in the source address table for one aging time, the port is designated as a station port. An example of a station port would be a twisted pair "home run" to a PC.
CsEvFormat/Event000d0117 {d "%w- %d %m-, %Y %T"} Port security violation has occurred, MAC address {X 5} has been detected on port {I 3} of module in slot {I 1} of {m} ({t}). (event [{e}])	**CsPCause/Prob000d0117** This event is only generated when the hub has port locking enabled. When a hub is locked, the source MAC addresses are learned on each port. When a port detects an attached device has changed its address, the device will note that the new address is not in the source address table. This will disable and lock the port, which then transmits this trap. This trap would be generated if an adapter were replaced or if an intruder attempted to access the network.

Table 4-1. Device Events and Alarms (Continued)

Message in the Event Log	Alarm Manager Probable Cause Message
CsEvFormat/Event000d0118 {d "%w- %d %m-, %Y %T"} Port violation reset, port {I 3} of module in slot {I 1} of {m} ({t}). (event [{e}])	**CsPCause/Prob000d0118** The network administrator has located the offending device that caused the port violation, and has re-enabled the port for use by the original network address for that port.
CsEvFormat/Event000d0119 {d "%w- %d %m-, %Y %T"} Environment Temperature Warm condition for module in slot {I 1} reported by {m} ({t}). (event [{e}])	**CsPCause/Prob000d0119** 1) A module may be defective. 2) A fan has failed in the chassis.
CsEvFormat/Event000d011a {d "%w- %d %m-, %Y %T"} Environment Temperature Hot condition for module in slot {I 1} reported by {m} ({t}). (event [{e}])	**CsPCause/Prob000d011a** 1) A module may be defective. 2) A fan has failed in the chassis.
CsEvFormat/Event000d011b {d "%w- %d %m-, %Y %T"} Environment Voltage Low condition has been detected by power supply in slot {I 1} of {m} ({t}). (event [{e}])	**CsPCause/Prob000d011b** 1) The power supply may be defective. 2) An AC power failure has occurred into the power supply module.
CsEvFormat/Event000d011c {d "%w- %d %m-, %Y %T"} Environment Temperature Normal condition for module in slot {I 1} reported by {m} ({t}). (event [{e}])	**CsPCause/Prob000d011c** A chassis or cooling system problem at this device's location has been corrected.
CsEvFormat/Event000d011d {d "%w- %d %m-, %Y %T"} Environment Voltage Normal, all power supply voltages have returned to NORMAL for {m} ({t}). (event [{e}])	**CsPCause/Prob000d011d** The problem with the power supply module or AC power feed has been corrected and the unit is now functioning normally.
CsEvFormat/Event000d011e {d "%w- %d %m-, %Y %T"} A fan in the system's chassis has failed or is operating at an abnormal RPM rate, has been detected by {m} ({t}). (event [{e}])	**CsPCause/Prob000d011e** 1) One or more fans in the fan tray assembly have failed. 2) The fan tray has been removed.

Table 4-1. Device Events and Alarms (Continued)

Message in the Event Log	Alarm Manager Probable Cause Message
CsEvFormat/Event000d011f {d "%w- %d %m-, %Y %T"} A fan in the system's chassis has resumed normal operation, has been detected by {m} ({t}). (event [{e}])	**CsPCause/Prob000d011f** The problem previously detected with the fan assembly has been corrected and the unit is now functioning normally.
CsEvFormat/Event000d0121 {d "%w- %d %m-, %Y %T"} Broadcast threshold exceeded {I 1} total packets in {I 3} seconds on the module in slot {I 5} of {m} ({t}). (event [{e}])	**CsPCause/Prob000d0121** The broadcast (packets per time interval) threshold has been exceeded for the given module.
CsEvFormat/Event000d0122 {d "%w- %d %m-, %Y %T"} Broadcast threshold exceeded {I 1} total packets in {I 3} seconds on port {I 7} on the module in slot {I 5} of {m} ({t}). (event [{e}])	**CsPCause/Prob000d0122** The broadcast (packets per time interval) threshold has been exceeded for the given port.
CsEvFormat/Event000d0125 {d "%w- %d %m-, %Y %T"} System Voltage Low condition has been detected by {m} ({t}). (event [{e}])	**CsPCause/Prob000d0125** 1) The power supplies are failing. 2) There is not enough power available to the host modules.
CsEvFormat/Event000d0126 {d "%w- %d %m-, %Y %T"} System Voltage Normal condition has been detected by {m} ({t}). (event [{e}])	**CsPCause/Prob000d0126** The problem with the internal 5 volt line of the system has been corrected.
CsEvFormat/Event000d0127 {d "%w- %d %m-, %Y %T"} An EPIM has been removed from port {I 3} on module in slot {I 1} of {m} ({t}). (event [{e}])	**CsPCause/Prob000d0127** An Ethernet Port Interface Module (EPIM) has been physically removed.
CsEvFormat/Event000d0128 {d "%w- %d %m-, %Y %T"} An (EPIM) has been inserted into port {I 3} on module in slot {I 1} of {m} ({t}). (event [{e}])	**CsPCause/Prob000d0128** An Ethernet Port Interface Module (EPIM) has been physically inserted.

Table 4-1. Device Events and Alarms (Continued)

Message in the Event Log	Alarm Manager Probable Cause Message
CsEvFormat/Event000d0129 {d "%w- %d %m-, %Y %T"} Traffic threshold, {I 1} packets per {I 3} seconds, exceeded on the repeater network {I 5} of {m} ({t}). (event [{e}])	**CsPCause/Prob000d0129** The device(s) attached to this channel may have an application level problem. The attached devices may be operating properly, but the application requires a large amount of network bandwidth.
CsEvFormat/Event000d0130 {d "%w- %d %m-, %Y %T"} Error threshold exceeded. An error threshold, of {I 1}% total packets in {I 5} seconds, exceeded on repeater network {I 7} of {m} ({t}). (event [{e}])	**CsPCause/Prob000d0130** 1) A malfunctioning device is present on this channel. 2) A cable fault exists.
CsEvFormat/Event000d0131 {d "%w- %d %m-, %Y %T"} Collision threshold exceeded. The number of collisions per total packets within the time base of {I 3} seconds has been exceeded on repeater network {I 5} of {m} ({t}). (event [{e}])	**CsPCause/Prob000d0131** 1) A malfunctioning device is present on this channel. 2) A cable fault exists. 3) Collisions are usually caused by many nodes contending for the network. As traffic rates increase, the collision rate usually follows. Therefore, if this channel has a high bandwidth utilization, a high collision rate is not unlikely.
CsEvFormat/Event000d0132 {d "%w- %d %m-, %Y %T"} Network port security is {T LockStatus 1} on repeater network {I 3} of {m} ({t}). (event [{e}])	**CsPCause/Prob000d0132** The network administrator has changed the status of port locking for this repeater channel. The security feature locks all ports on this repeater channel so that only a valid user already in the source address table can access the network.
CsEvFormat/Event000d0133 {d "%w- %d %m-, %Y %T"} Broadcast threshold exceeded {I 1} total packets in {I 3} seconds on repeater network {I 5} of {m} ({t}). (event [{e}])	**CsPCause/Prob000d0133** The broadcast (packets per time interval) threshold has been exceeded for the repeater.
CsEvFormat/Event000d0135 {d "%w- %d %m-, %Y %T"} Port Security Status is {T LockStatus 3} for port #{I 2 }, located in port group #{I 1} of {m} ({t}). (event [{e}])	**CsPCause/Prob000d0135** A change in the lock status for a particular port has occurred.

Table 4-1. Device Events and Alarms (Continued)

Message in the Event Log	Alarm Manager Probable Cause Message
CsEvFormat/Event000d0136 {d "%w- %d %m-, %Y %T"} Device configuration change reported by {m} ({t}). The module in slot {I 1} has been inserted.	**CsPCause/Prob000d0136** A module has been inserted into this hub.
CsEvFormat/Event000d0137 {d "%w- %d %m-, %Y %T"} Alternate Path Repeater Management has been enabled for {m} of type {t} Network Address Synchronized to {O 1}. (event [{e}])	**CsPCause/Prob000d0137** Alternate Path Repeater Management functionality has been enabled for this repeater model.
CsEvFormat/Event000d0138 {d "%w- %d %m-, %Y %T"} Alternate Path Repeater Management has been enabled for {m} of type {t} No Network Address Synchronization. (event [{e}])	**CsPCause/Prob000d0138** Alternate Path Repeater Management functionality has been enabled for this repeater model.
CsEvFormat/Event000d0139 {d "%w- %d %m-, %Y %T"} Alternate Path Repeater Management has been disabled for {m} of type {t} Network Address Synchronized to {O 1}. (event [{e}])	**CsPCause/Prob000d0139** Alternate Path Repeater Management functionality has been disabled for this repeater model.
CsEvFormat/Event000d013a {d "%w- %d %m-, %Y %T"} Alternate Path Repeater Management has been disabled for {m} of type {t} No Network Address Synchronization. (event [{e}])	**CsPCause/Prob000d013a** Alternate Path Repeater Management functionality has been disabled for this repeater model.
CsEvFormat/Event000d013b {d "%w- %d %m-, %Y %T"} Alternate Path Repeater Management has activated for {m} of type {t} Network Address changed from {O 1} to {O 2}. (event [{e}])	**CsPCause/Prob000d013b** Router Redundancy for the managing device model has probably been activated.

Table 4-1. Device Events and Alarms (Continued)

Message in the Event Log	Alarm Manager Probable Cause Message
CsEvFormat/Event000d1139 {d "%w- %d %m-, %Y %T"} Port Security Status is {T SecureState 3} for port #{I 2 }, located in port group #{I 1} of {m} ({t}). (event [{e}])	**CsPCause/Prob000d1139** The status of the secure state for a specific port has changed.
CsEvFormat/Event000d113a {d "%w- %d %m-, %Y %T"} Network Learning Status is {T LearnState 2} for the network interface #{I 1} of {m} ({t}). (event [{e}])	**CsPCause/Prob000d113a** Network learning has been reset. When learning is reset, all secure addresses on each port, within the network, will be deleted and ports will learn source addresses again.
CsEvFormat/Event000d113b {d "%w- %d %m-, %Y %T"} Port Group Learning Status is {T LearnState 2} for the port group #{I 1} of {m} ({t}). (event [{e}])	**CsPCause/Prob000d113b** A port group's learning has been reset. When learning is reset, all secure addresses on each port, within a port group, will be deleted and ports will learn source addresses again.
CsEvFormat/Event000d113c {d "%w- %d %m-, %Y %T"} Port Learning Status is {T LearnState 3} for the port #{I 2}, located in port group {I 1} of {m} ({t}). (event [{e}])	**CsPCause/Prob000d113c** A port's learning has been reset. When learning is reset, all secure addresses on the port will be deleted and the port will learn source addresses again.
CsEvFormat/Event000d113d {d "%w- %d %m-, %Y %T"} Network Learning Mode is {T LearnMode 2} for the network interface #{I 1} of {m} ({t}). (event [{e}])	**CsPCause/Prob000d113d** Network learning mode has changed between one-time learn mode and continuous learn mode.
CsEvFormat/Event000d113e {d "%w- %d %m-, %Y %T"} Port Group Learning Mode is {T LearnMode 2} for the port group #{I 1} of {m} ({t}). (event [{e}])	**CsPCause/Prob000d113e** A port group's learning mode has changed between one-time learn mode and continuous learn mode.
CsEvFormat/Event000d113f {d "%w- %d %m-, %Y %T"} Port Learning Mode is {T LearnMode 3} for the port #{I 2}, located in port group {I 1} of {m} ({t}). (event [{e}])	**CsPCause/Prob000d113f** A port's learning mode has changed between one-time learn mode and continuous learn mode.

Chapter 5

Application Views

What Is in This Chapter

This chapter describes the following device-specific applications for the SEHI100TX-22:

- Stackable Repeater (StackableRptr)
- Fast Ethernet (FastEnetApp)

This chapter also describes how to access the following:

- DownLoad App (CtDownLoadApp)

For more information on the DownLoadApp refer to the ***SPECTRUM Portable Management Application Tools Guide***.

The Application view allows you to access increasingly detailed views of network information for the applications supported by this device.

Common Applications

This device supports the following common applications described in the ***Application View Reference***:

- MIB-II (SNMP2_Agent)
  - ICMP (ICMP_App)
  - IP (IP2_App)
  - System (System2_App)
  - UDP (UDP2_App)

Device Application View

This view, accessible from the Device Icon, shows the common and device-specific applications supported by this device and provides access to application-specific information.

For information on *Accessing SPECTRUM Views from the Device Icon*, see page 1-2, and for information on *Accessing Device-Specific Subviews*, see page 1-4.

Figure 5-1 shows an example of an Application view in the Icon mode. Figure 5-2 shows an example of an Application view in the List mode.

To change the display mode, select **View -> Mode -> List** or **Icon**.

Figure 5-1. Device Application View (Icon Mode)

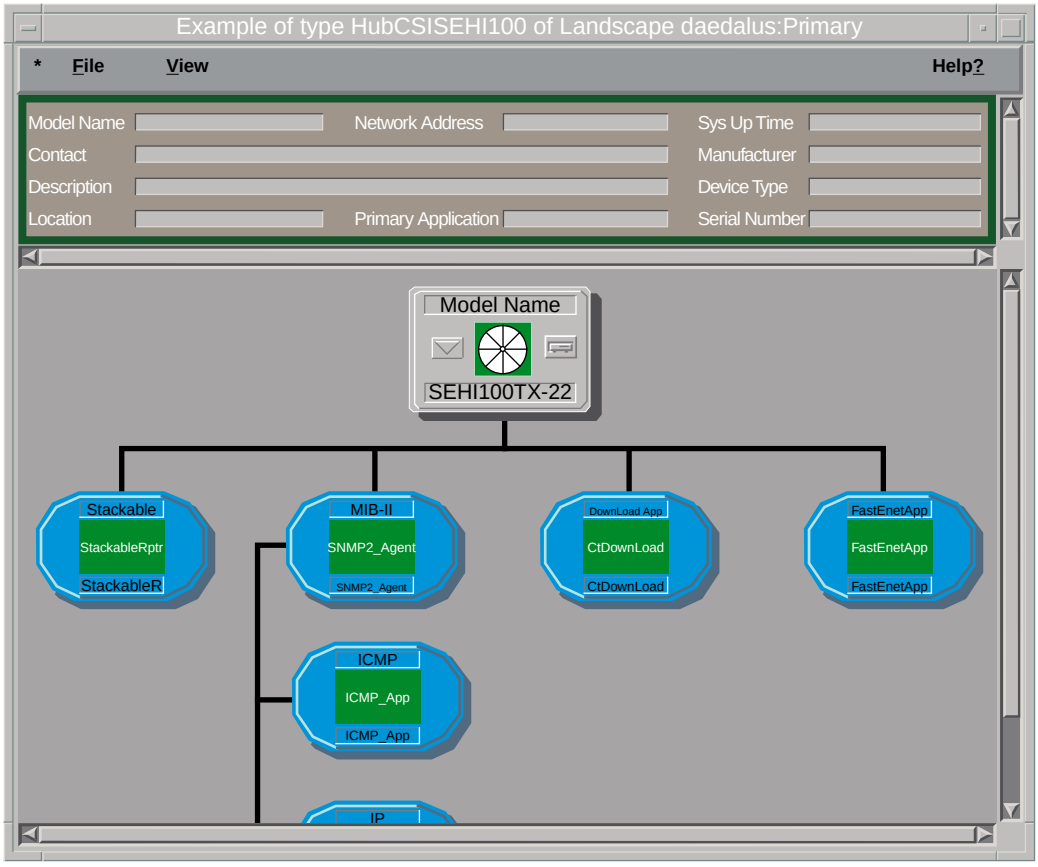
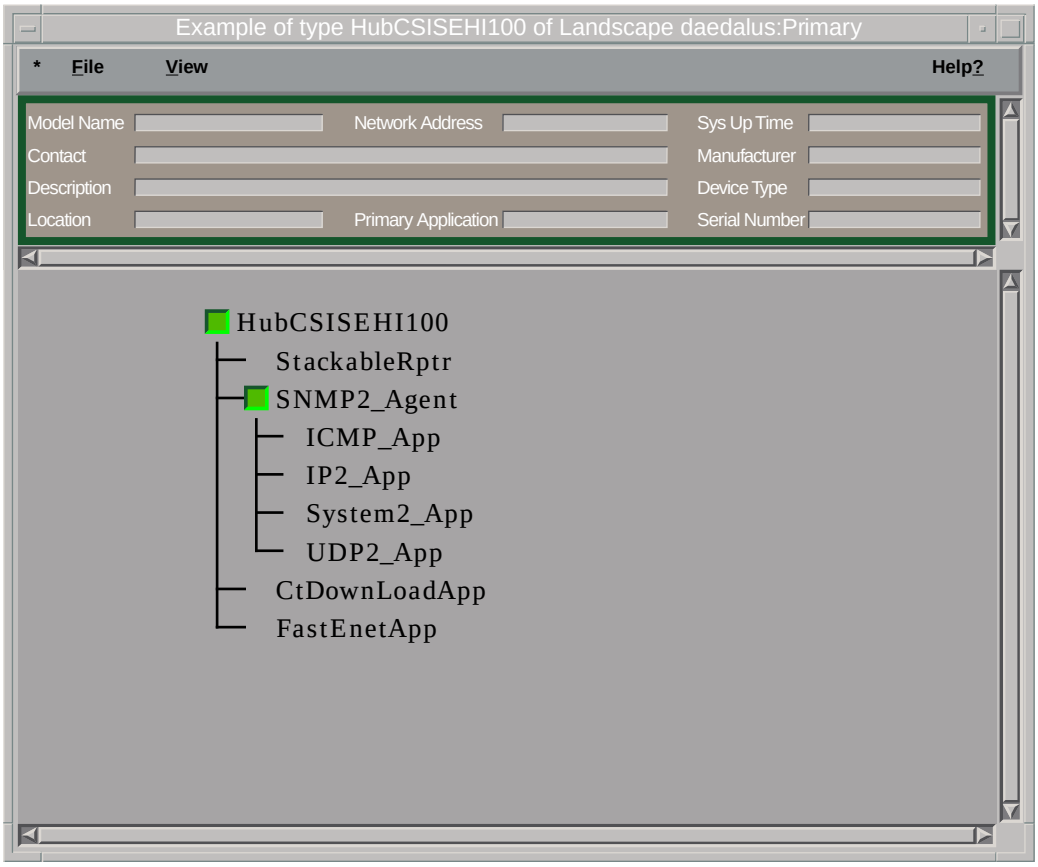


Figure 5-2. Device Application View (List Mode)



Stackable Repeater View

This application provides access to stackable repeater functionality for this device. The model type for this application is StackableRptr. Table 5-1 describes each of the application-specific Icon Subviews menu selections available for the Stackable Repeater application.

Table 5-1. Stackable Repeater Application-Specific Icon Subviews Menu Selections

Menu Selection	Description
Device	For more information on the *Device Views* see Chapter 2, *Device Views*.
Configuration	For more information on the *Configuration Views* see Chapter 3, *Configuration Views*.
Model Information	For more information on the Model Information view refer to the ***Application View Reference***.
Repeater Redundancy	For more information on the Repeater Redundancy view refer to the ***SPECTRUM Portable Management Application for the SEHI100TX-22 User's Guide***.
Repeater Source Address	For more information on the Repeater Source Address view refer to the ***SPECTRUM Portable Management Application for the SEHI100TX-22 User's Guide***.
Repeater Security Configuration	For more information on the Repeater Security Configuration view refer to the ***SPECTRUM Portable Management Application for the SEHI100TX-22 User's Guide***.

Fast Ethernet Application View

This application provides the Fast Ethernet Port Table, from which you can access the Fast Ethernet Configuration view, which allows you to configure ports for Ethernet or Fast Ethernet transmission or use Auto-Negotiation to determine transmission mode. The name of the model type used to model the application is FastEnetApp.

Fast Ethernet Port Table

This view displays information on the current operational status of the Ethernet ports. To access this table do the following:

1. Within the Application view highlight the FastEnetApp icon (Icon mode) or text label (List mode).
2. From the Icon Subviews menu select **Control Table**.

The Fast Ethernet Port Table provides the following information:

Interface
Displays the interface number to which this Fast Ethernet information applies.

Port Group
Displays the port group number to which this Fast Ethernet information applies. If there is no information in this column, it will not appear in the table.

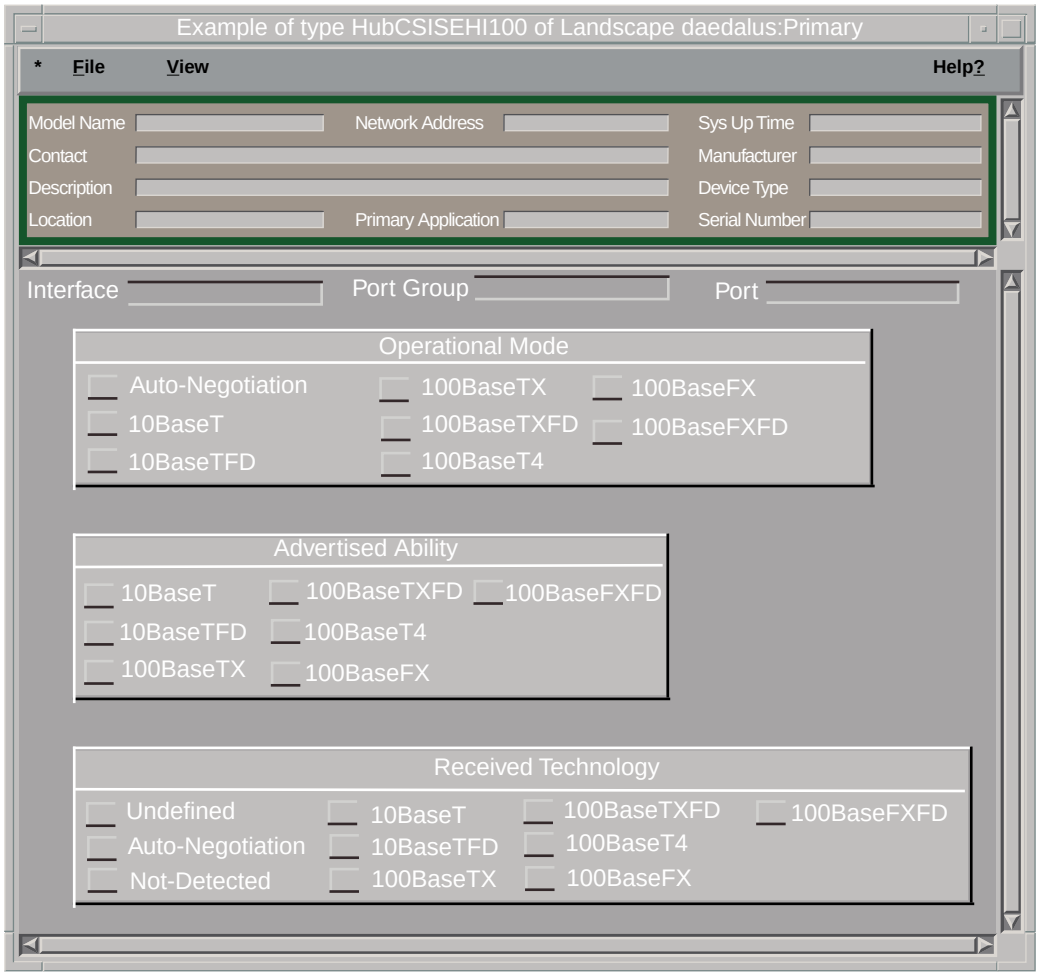
Port
Displays the port number to which this Fast Ethernet information applies. If there is no information in this column, it will not appear in the table.

Operational Mode
Displays the current operational mode of the port. If there is no information in this column, it will not appear in the table.

Fast Ethernet Configuration View

This view (Figure 5-3) allows you to configure ports for Ethernet or Fast Ethernet transmission or to use Auto-Negotiation in determining transmission mode. Double-click any entry in the Fast Ethernet Port Table to open this view. The Fast Ethernet Configuration view carries the Interface, Port Group, and Port information over from the Port Table.

Figure 5-3. Fast Ethernet Configuration View



Operational Mode

These selections indicate the current operational mode of this port. If you select Auto-Negotiation, you can select as many modes as needed from the Advertised Ability selections. You can only select one Operational Mode: either Auto-Negotiation or one of the specific modes. Table 5-2 lists the Current Operational Modes, their values, and their descriptions.

Advertised Ability

These selections indicate the advertised ability of the local hardware. They become active on ports that have Auto-Negotiation enabled. Auto-Negotiation allows the SEHI100TX-22 RJ-45 port to self-configure to 10 or 100 Mbps depending on the speed of the attached device. The interfaces can also dynamically configure themselves for full duplex or half duplex (standard mode) operation when both ends of the link support Auto-Negotiation. When only one link partner supports Auto-Negotiation, the mode defaults to half duplex.

Both local and remote management for the Fast Ethernet SmartSwitch Module provide the ability to disable Auto-Negotiation if desired. A port that does not support Auto-Negotiation will be read as “other” (1).

Table 5-2 lists the Advertised Ability modes, their values, and their descriptions.

Received Technology

These selections indicate the advertised ability of the remote hardware or link partner. These modes are read-only. Table 5-2 lists the Received Technology modes, their values, and their descriptions.

Table 5-2. Data Field Mode Values and Descriptions

Data Field	Value	Description
Undefined*	1	Undefined
Auto-Negotiation**	2	Auto-Negotiation/Parallel Detection
Not-Detected*	4	Link Partner does not support Auto-Negotiation
10Base-T	8	10Base-T
10Base-TFD	16	Full Duplex 10Base-T
100Base-TX	32	100Base-TX
100Base-TXFD	64	Full Duplex 100Base-TX
100Base-T4	128	100Base-T4
100Base-FX	256	100Base-FX
100Base-FXFD	512	Full Duplex 100Base-FX

* Applies to Received Technology only.

** Applies to Received Technology and Current Operational Mode.

Download Application View

This application provides download functionality for this device. The model type for this application is CtDownLoadApp. Access the Download Application view as follows:

1. Within the Application view, highlight the CtDownLoadApp icon (Icon mode) or model type name (List mode).
2. From the Icon Subviews menu select **Download Application**.

The Download Application view is an SPMA view, which is described in the ***SPECTRUM Portable Management Application Tools Guide***.

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